9. The magnet coil of claim 8, wherein said the winding (4) is disposed in a toroidal cup (21).

10. The magnet coil of claim 9, further comprising two encompassing chamfers (22) embodied in the interior of said magnet pot (1).

11. The magnet coil of claim 8, further comprising a tubular plastic part (5) mounted on the magnet pot (1).

12. A method for producing a magnet coil including a winding (4) received in a magnet pot (1), said winding (4) being formed of a baked enamel wire, and a coating that causes the winding (4) to hold together the method comprising inserting said winding (4) into said magnet pot (1) and there potted with a low- viscosity potting material (7).

13. A magnet valve for controlling the pumping quantity and/or the course of pumping of a fuel pump, the magnet valve comprising a magnet coil having a winding (4) received in a magnet pot (1), said the winding (4) being formed of a baked enamel wire, and a coating that causes the winding (4) to hold together.

14. A fuel pump for pumping fuel in an internal combustion engine, including a magnet valve for controlling the pumping quantity and/or the course of pumping of a fuel pump, said magnet valve comprising a magnet coil including a winding (4)

received in a magnet pot (1), said the winding (4) being formed of a baked enamel wire, and a coating that causes the winding (4) to hold together.

15. The magnet coil of claim 9, further comprising a tubular plastic part (5) mounted on the magnet pot (1).

16. The magnet coil of claim 10, further comprising a tubular plastic part (5) mounted on the magnet pot (1).

17. A method for producing a magnet coil including a winding (4) disposed in a toroidal cup (21) received in a magnet pot (1), said winding (4) being formed of a baked enamel wire and coating that causes the winging (4) to hold together, the method comprising inserting said winding (4) into said magnet pot (1) and thereafter potting the winding (4) with a low viscosity potting material.